Ron Patterson

Antenna Works 2M 2500w Amplifier

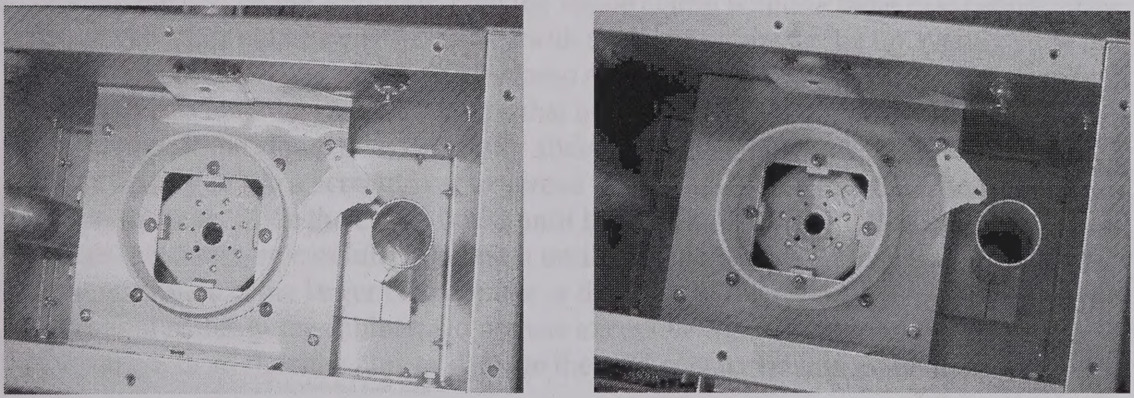
All switches terminal 3 to top

TUBE INSTALLATION

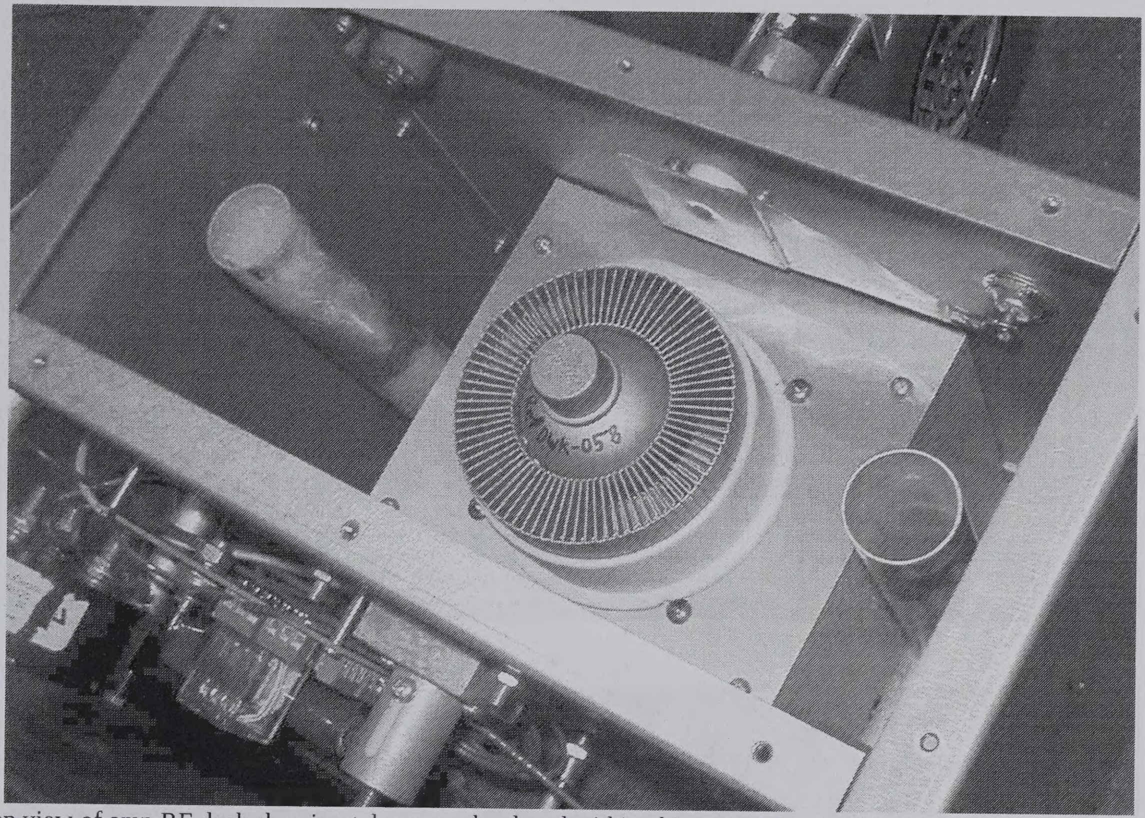
Carefully unpack the tube, amplifier RF deck, and power supply. Inspect the cabinets carefully for any signs of damage during shipment. If there is obvious damage to the shipping containers, please thoroughly inspect the components for damage and contact Antennaworks and the shipping agent if signs of damage are found.

Be very careful when handling the 8877 tube. The tube is relatively heavy, and is easily damaged if it is dropped.

1. Remove the top cover from the amplifier’s RF deck using a phillips screwdriver. Remove any packing material from inside the RF deck.
2. Locate the teflon tube chimney, it is a white plastic cylinder roughly 1 ½” tall. Place the chimney, with the flange side down, surrounding the tube socket inside the RF deck.
3. Place the tube, with the connecting pins down, into the tube socket. Note that one of the tube pins are larger in diameter than the rest; this pin fits into the larger hole in the tube socket. A gentle rotation back and forth of the tube may be required to align the tube pins with the holes in the socket. Gently press the tube into place in the socket until it stops. Do not use excessive force to install the tube, if strong resistance is felt, inspect the base of the tube and socket to determine the cause of the interference.
4. Rotate the teflon chimney so the small recesses in the chimney flange fit over the screw heads on the tube mounting deck. The flange must fit flush on the mounting deck, such that it is difficult (or impossible) to slide a slip of paper between the flange and the mounting deck. If there is clearance between the flange and the deck after the chimney has been rotated to align with the recesses, or if your chimney does not have recesses, please mark the location of the screws on the chimney. Remove the chimney and carefully notch the chimney so it fits over the screws and flush with the tube mounting deck surface. It is necessary to eliminate any air leakage between the chimney flange and the mounting deck.

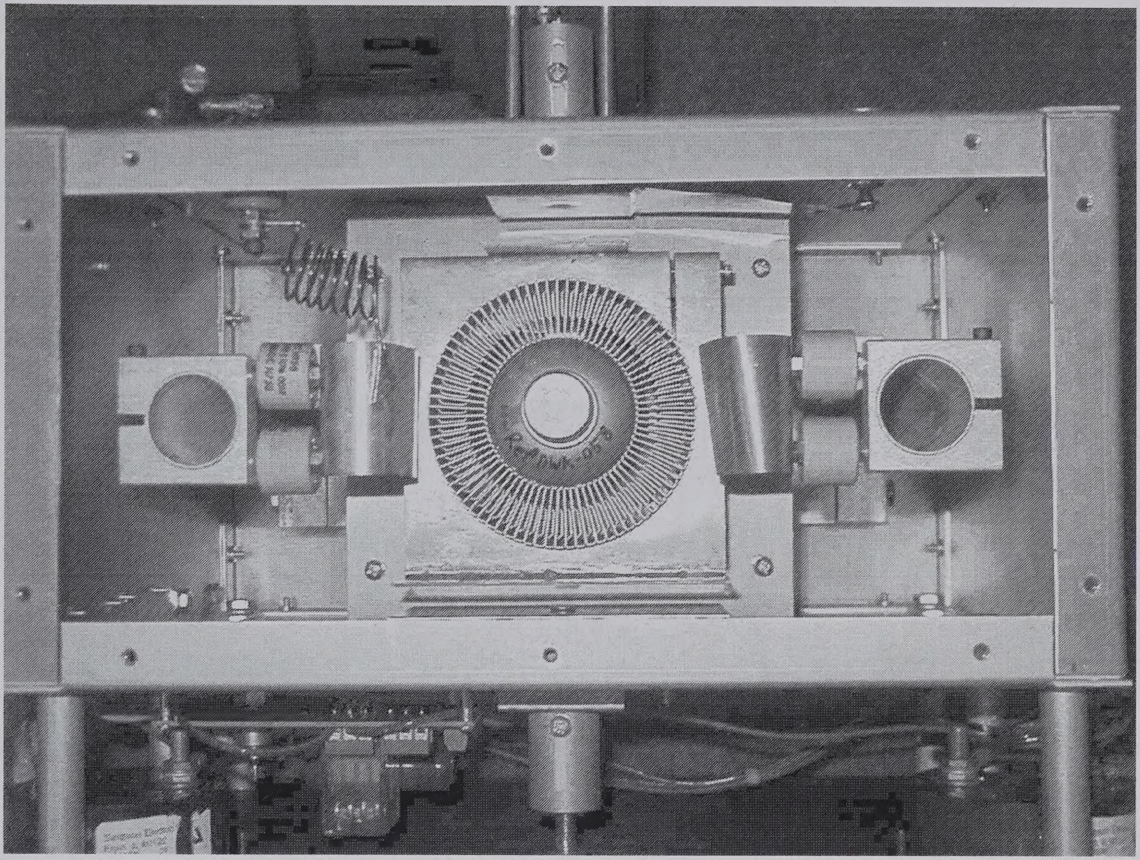


Chimney should sit flush on tube platform. It should be difficult (or impossible) to slide a slip of paper under the bottom of the chimney and the platform (as shown above).



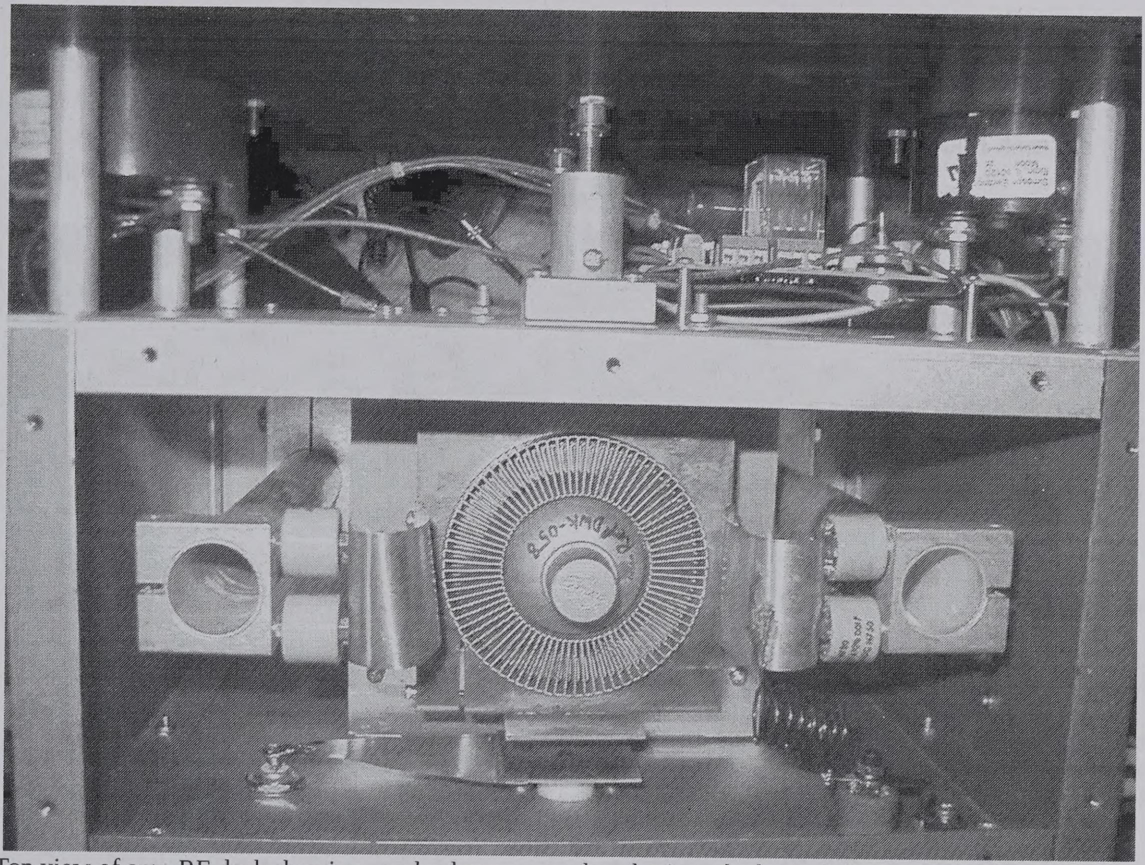
Top view of amp RF deck showing tube properly placed within chimney. Tube should seat solidly inside the tube socket, and chimney should rest on tube platform.

5. Locate the anode clamp assembly. The clamp is a thick brass plate, with two brass straps mounted on each side. These straps connect to the resonator clamp through 2 doorknob capacitors mounted on the edge of the resonator clamp. The front and back of the anode clamp has two vertical copper plates, the larger plate indicates the front of the anode clamp. At the rear of the anode clamp, there is a slot that runs from the large center hole to the back of the clamp. Loosen the screw, allowing this slot to spread apart.
6. Facing the rear of the amplifier, hold the anode clamp with the large rear copper plate (load capacitor plate) away from you, with the brass straps facing up. Gently slide the large hole in the center of the anode clamp over the anode fins of the tube. It may be necessary to hold the resonator straps that hook to the pipes out of the way to install the clamp. If the clamp does not easily slide down the anode fins of the tube, it may be necessary to use a screwdriver to spread the slot apart to allow the clamp to slide down the tube. Slide the clamp down until it rests firmly on the teflon chimney.
7. Align the clamp by carefully rotating it until both the load and tune capacitor plates (the tune plate is the larger copper plate at the front of the clamp) are parallel with the matching plates in the cabinet. Do not use excessive force in rotating the clamp or you might bend the tube pins or damage the grid contact fingers in the tube base.



Top view of amp RF deck showing tube anode clamp properly placed on the tube. The anode clamp should seat solidly on the top of the teflon chimney, holding it firmly on the tube platform.

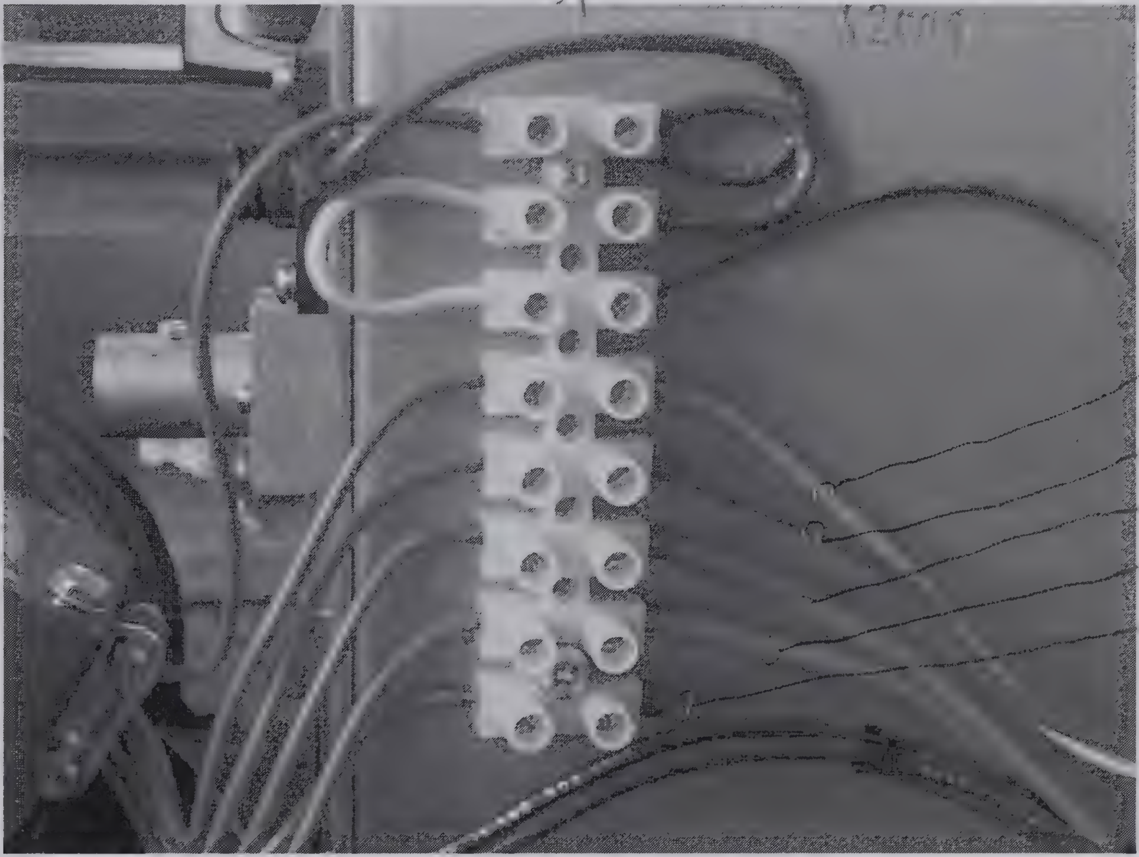
8. Tighten the screw near the slot to tighten the clamp onto the tube. Do not overtighten this screw and damage the tube anode fins.
9. Attach the resonator clamps to the top of the resonator pipes by sliding the clamps over the pipes. The top of the clamp should be flush with the top of the resonator pipe. If the clamps do not slide down the pipe easily, it may be necessary to spread the clamp slightly with a screwdriver. Tighten the screw that holds the clamp to the pipe such that the clamp will not slide on the pipe.



Top view of amp RF deck showing anode clamp over tube, slot is to the lower left. Resonator clamps are shown attached to the resonator pipes with the top of the clamp flush with the top of the resonator tube. The anode HV choke is shown attached to the doorknob capacitor at the lower right of the photo.

10. Mount the anode HV choke (the small red coil of wire) between the left anode strap and the doorknob capacitor on the rear of the cabinet. The choke mounts horizontally, the leads are pre-bent to attach only one way.

contacted, and such that there is no strain on the conduit and wire bundle. Also, insure that there is plenty of air circulation around the vent openings in the power supply, the air inlet of the blower, and the top of the RF deck where the cooling air exits. Obstruction of the cooling air supply can cause rapid component failure and overheating and damage to the 8877 tube.



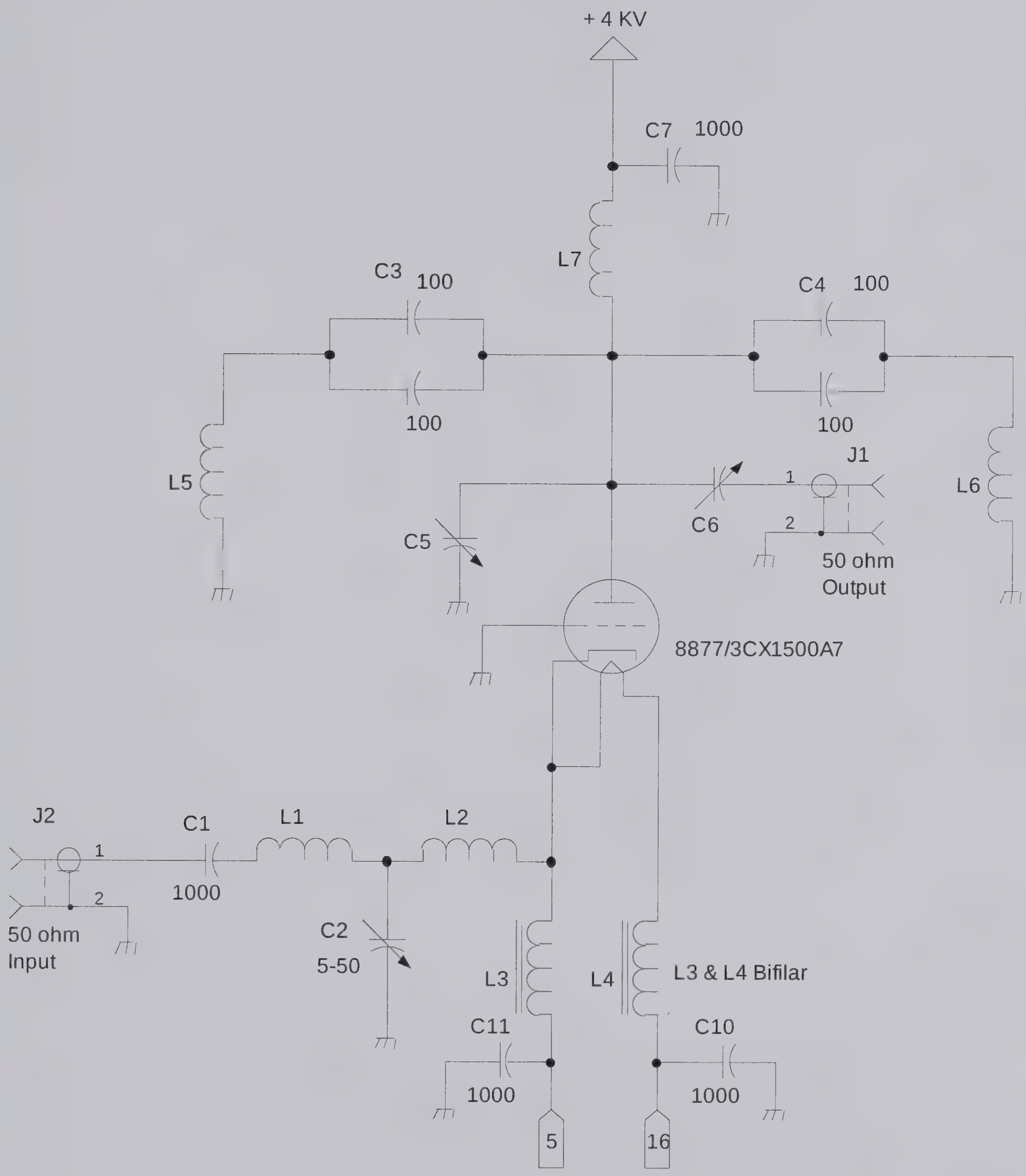
View of left rear side of amplifier showing terminal block for wiring connections. The block positions are numbered from 1 to 8, starting at the top of the terminal block.

The terminal strip with 8 positions is located at the left rear of the RF deck (looking at the amp from the front). Positions 1 through 8 progress from top to bottom, starting with position 1 at top of the terminal strip.

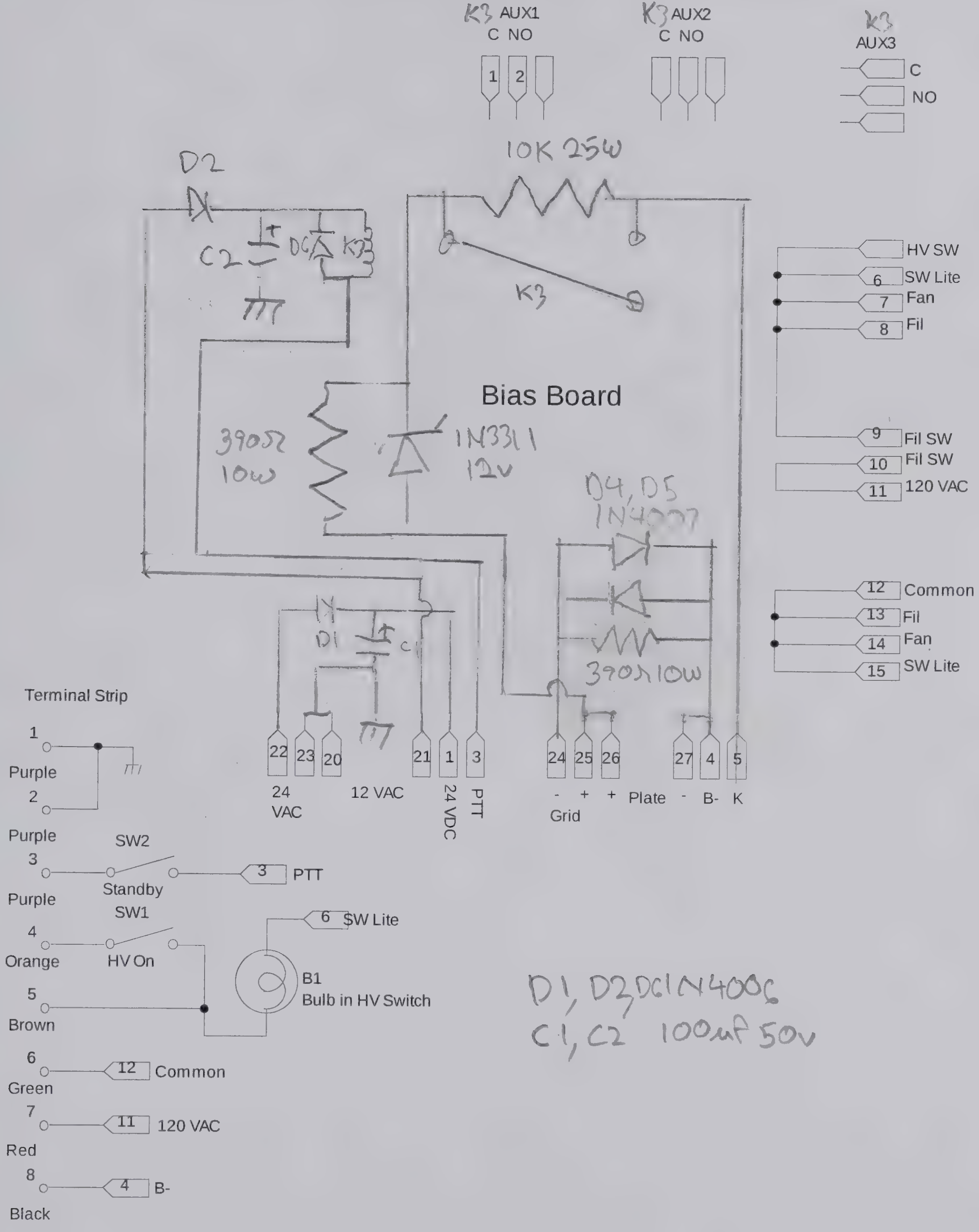
The power supply bundle includes a purple wire. This wire grounds the RF deck chassis to the chassis of the power supply. Hook this purple wire to position one on the terminal block (the top position). Please also connect a heavy copper braid ground strap between a bolt on the chassis of the RF deck and a bolt on the chassis of the power supply. This ground strap will serve as an independent ground return path should the purple wire become disconnected or damaged.

IMPORTANT: Never operate this amplifier without this independent ground strap. Without an independent ground, if the purple wire should become disconnected and if the

APPENDIX 2 – RF DECK SCHEMATIC

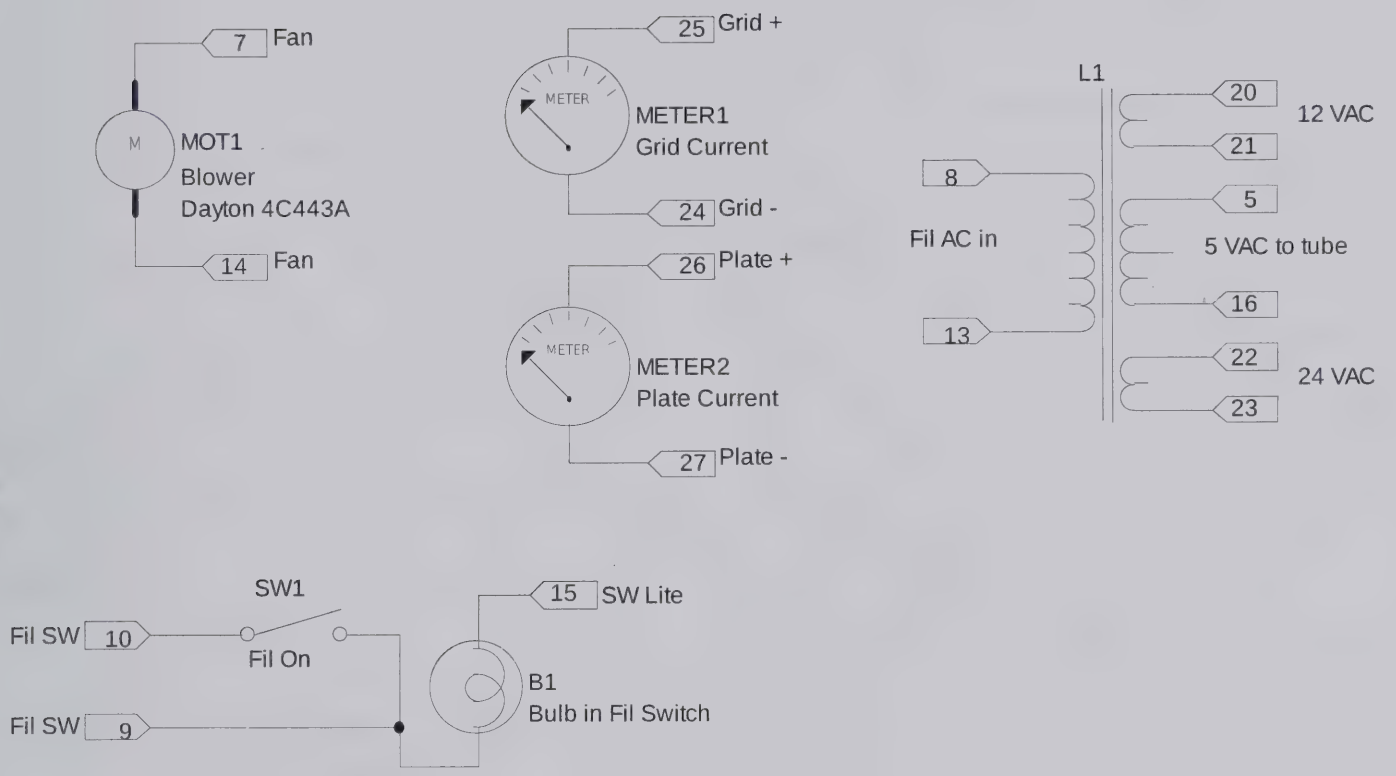


APPENDIX 2 – BIAS BOARD SCHEMATIC

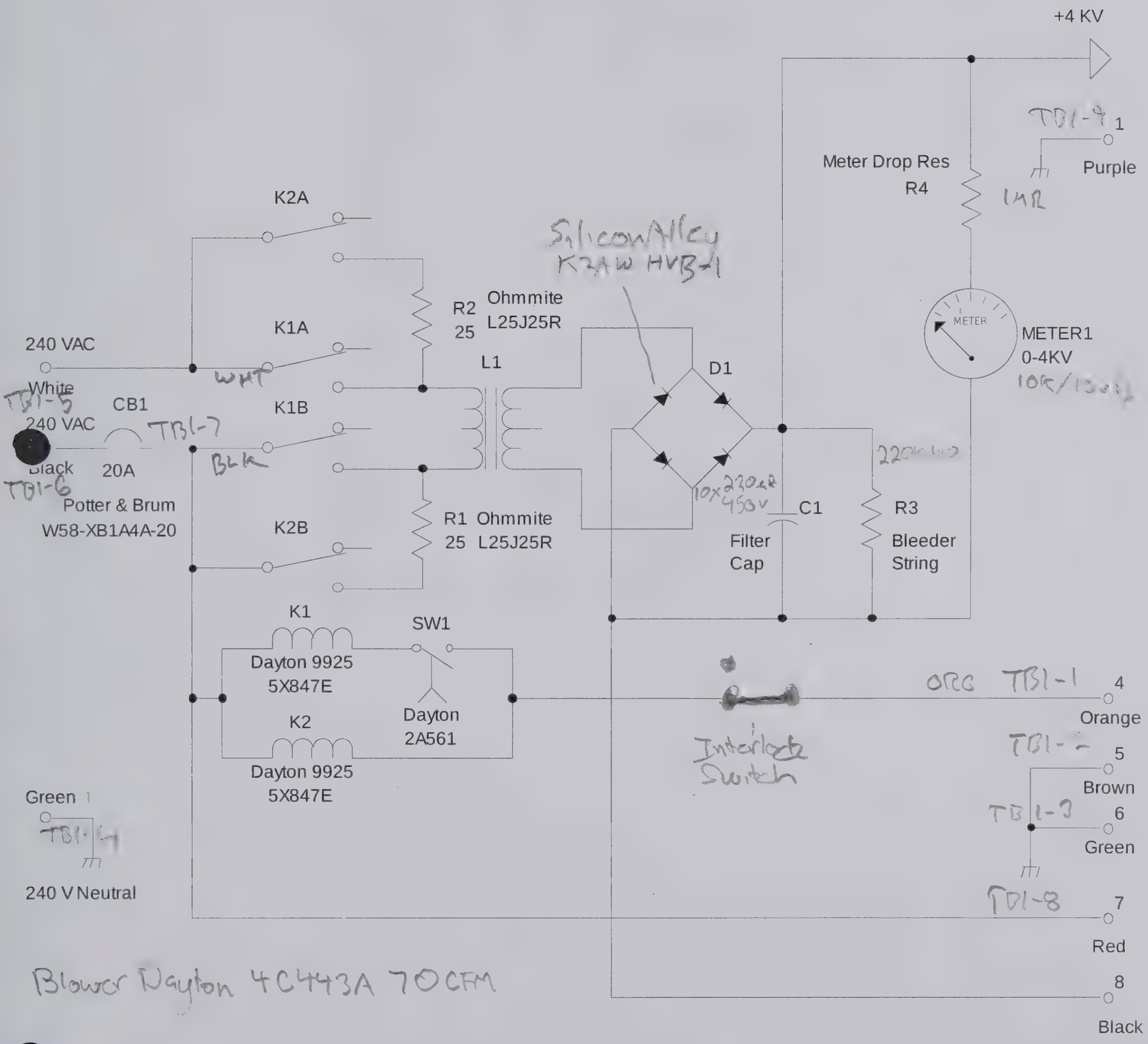


D1, D2, DC 1N4006
C1, C2 100uf 50v

APPENDIX 2 – MISC COMPONENTS SCHEMATIC

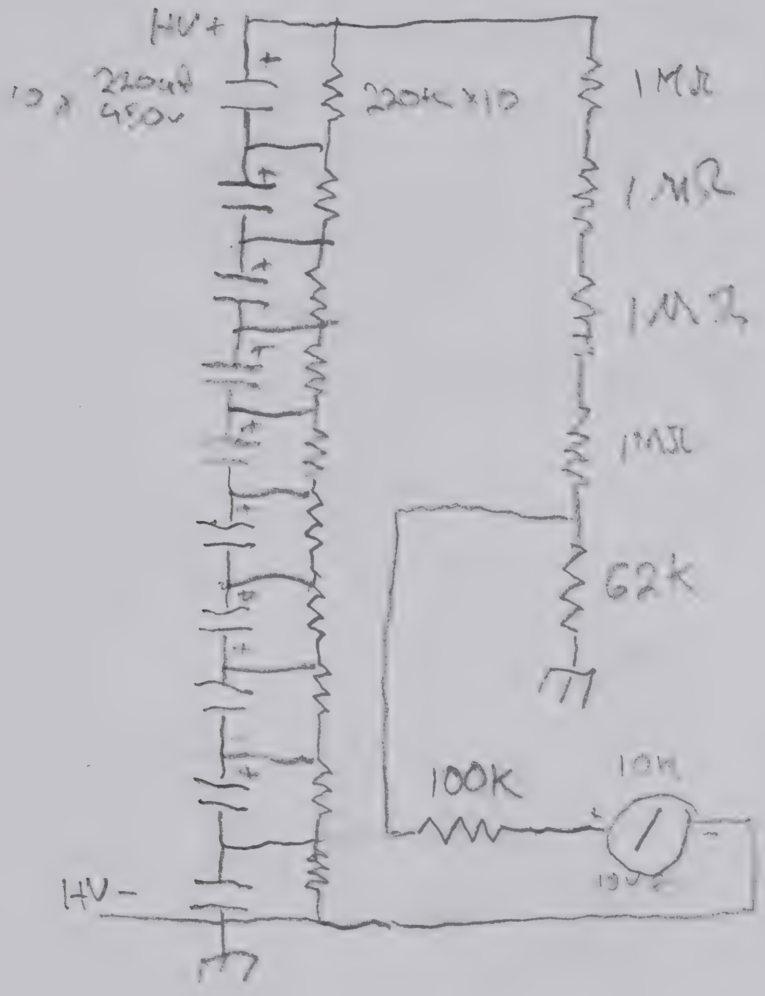


APPENDIX 2 – POWER SUPPLY SCHEMATIC



Blower Dayton 4C443A 70CFM

Antenna Works Amplifier HV Supply



Antenna Works 3877 2m amp

K5GW 916-765-5811 Rich KA6NBC

Plate tuning fixed plate 3/16" lower

" loading " " 1/4" "

Aux switch missing

Bias board schematic?

Value of HV meter dropping res R4? 220k bleeders

1MΩ HV meter across bottom bleeder resistor ☹

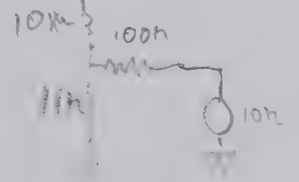
4080v 180ma

grid 1ma + plate

made 17' 2300 w in 73% eff

26ma 580ma 1700 w out

5k



$$\frac{x \cdot 110}{x+110} = \frac{110x}{x+110}$$

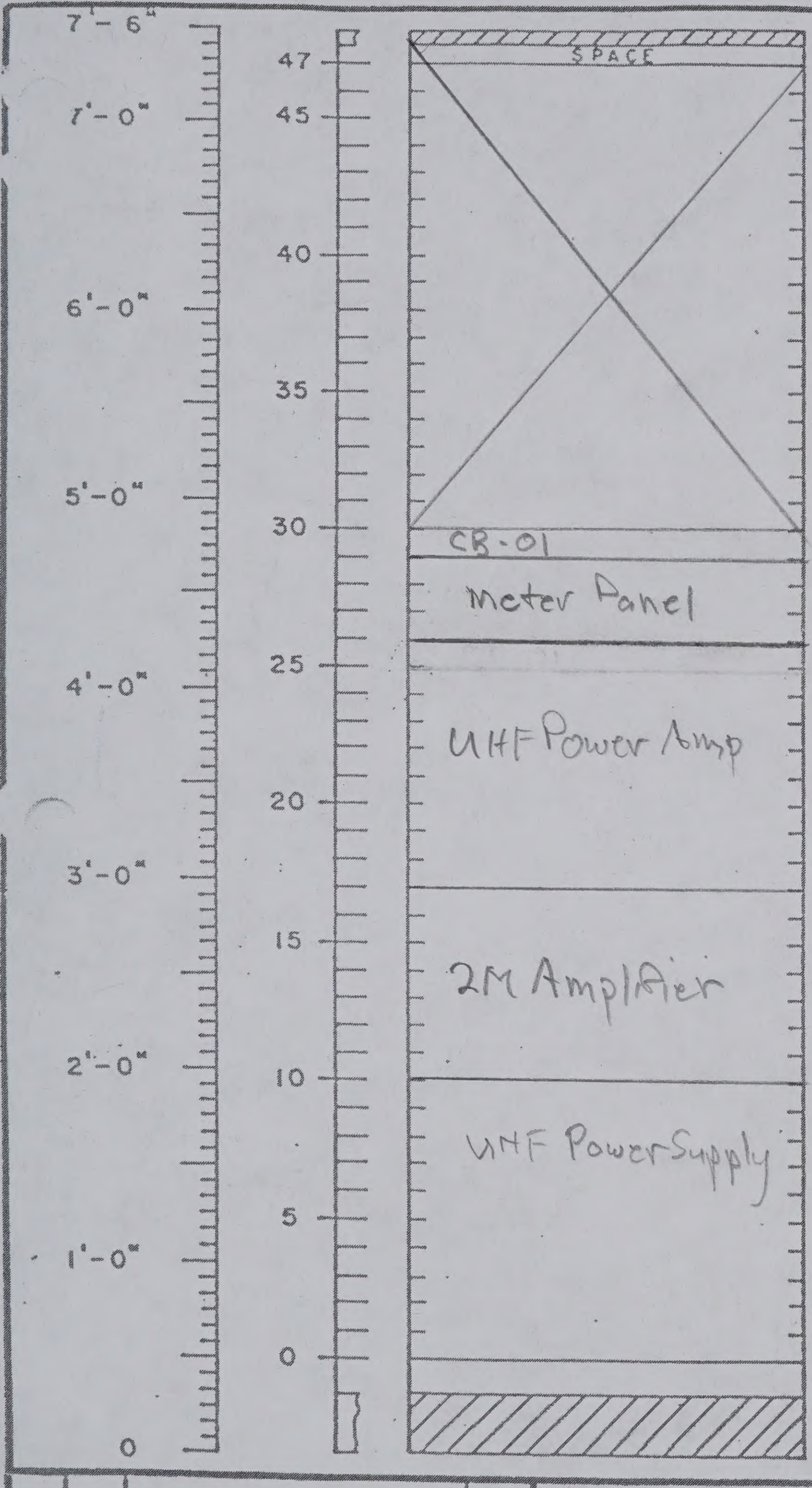
$$\frac{1}{\frac{1}{110}+\frac{1}{x}} = 10 \qquad \frac{1}{\frac{1}{117}+\frac{1}{x}} = 47$$

$$10\left(\frac{1}{110}+\frac{1}{x}\right)$$

$$.09091 + \frac{10}{x} = 1 \qquad \frac{10}{x} = .9091 \qquad \frac{10}{.9091} = x \qquad 11k = x$$

$$47\left(\frac{1}{110}+\frac{1}{x}\right) = 1 \qquad \frac{47}{x} + .4215 = 1 \qquad \frac{47}{x} = .5725 \qquad x = 82\ k$$

$$40\left(\frac{1}{110}+\frac{1}{x}\right) = 1 \qquad \frac{40}{x} + .36364 = 1 \qquad \frac{40}{x} = .6364 \qquad x = 62.8k$$



Fan Tarzan TNE2C 340CFM

REV	DATE	DESCRIPTION	APPD

TABLE OF CHANGES

RACK ELEVATION DIAGRAM

STATE OF CALIFORNIA

ENGR	UNIT
DR	DATE
SCALE	
SHEET of	
DRAWING NUMBER	

ACCOPRESS®

25270	YELLOW
25271	BLACK
25272	LIGHT BLUE
25273	DARK BLUE
25274	DARK GRAY
25275	LIGHT GREEN
25276	DARK GREEN
25277	TANGERINE
25278	RED
25279	EXECUTIVE RED

PRESSTEX™ BY ACCO

ACCO INTERNATIONAL INC.
CHICAGO, ILLINOIS 60619